

### **Remarks**

Applicant gratefully acknowledges the indication by the Examiner that claims 10-15 would be allowable if rewritten in independent form. However, for the reasons outlined below, Applicant respectfully submits that all of the pending claims, i.e., claims 1-20, should be allowable.

Claims 1-20 are pending in the application. Claims 1-9, 11-14, 16, and 20 are currently amended. No new matter is added to currently amended claims 1-9, 11-14, 16, and 20. Claims 1, 16, and 20 are independent.

Notwithstanding any claim amendments of the present Amendment or those Amendments that may be made later during prosecution, Applicant's intent is to encompass equivalents of all claim elements. Reconsideration in view of the foregoing amendments and the following remarks is respectfully requested.

Claim 5 is objected to for informalities.

Claim 9 is rejected under 35 U.S.C. §112, second paragraph.

Claim 20 is rejected under 35 U.S.C. §102(b) as anticipated by US Patent No. 5,577,097 to Meek. Claims 1-5, 7-9, 16, and 19 are rejected under 35 U.S.C. §103(a) as unpatentable over Meek in view of US Patent Application No. US20020131583 A1 to Lu. Claims 6, 17 and 18 are rejected under 35 U.S.C. §103(a) as unpatentable over Meek and Lu, as applied to claims 1 and 16 above, and further in view of US Patent No. 6,683,960 to Fuji et al. (hereinafter, Fuji).

These rejections are respectfully traversed in view of the following discussion.

#### **THE 35 U.S.C. §112, SECOND PARAGRAPH, REJECTION**

Claim 9 is rejected under 35 U.S.C. §112, second paragraph, because the Office Action asserts that "may decrease in value" is vague and indefinite.

Applicant respectfully submits that line 3 of claim 9 is amended above to recite: "decreases in value." Applicant also respectfully submits that line 3 of claim 9 as amended

above, fulfills the requirement of 35 U.S.C. §112, second paragraph, by particularly pointing out and distinctly claiming the subject matter which Applicant regards as the invention.

## THE PRIOR ART REJECTIONS

### The Meek Reference

As shown in Fig. 1 of Meek, the levels of R, S, and T are averaged by averagers 22, 24 and 26 respectively to produce average signal levels  $R_a$ ,  $S_a$ , and  $T_a$  respectively (col. 4, lines 6-9). A calculator 28 calculates an average value  $E_a$  of the ERLE from the average signal levels  $S_a$  and  $T_a$  in accordance with the equation  $E_a = S_a/T_a$  (col. 4, lines 9-11). A comparator 30 compares the average value of  $E_a$  with a threshold value, and produces an enable signal  $En$  for a further averager 32 in the event  $E_a > Th$  (col. 4, lines 11-14). A further calculator 34 calculates an average loss value  $L_a$  from the average signal levels  $R_a$  and  $S_a$  in accordance with the equation  $L_a = R_a/S_a$  (col. 4, lines 14-16). This average loss value  $L_a$  is supplied to and averaged by the averager 32 only when the averager 32 is enabled by the signal  $En$ , the averager thereby producing at its output a calculated value of the ERL (col. 4, lines 16-20).

Claim 1 recites at least the features of "measuring a peak power value of a signal received from a far end of a communication link within a power period, said power period being initiated by detection of a peak in said far-end signal power."

Similarly, claims 16 and 20 recite at least the features of "measuring a peak power value of a signal received from a far-end of a communication link within a filter length period, said filter length period being initiated by detection of a peak in power of said far-end signal" and "a measuring unit operatively connected to receive signals from the near-end and the far-end of a communication link that measures a peak power value of a signal received from said far-end within a power period, said power period being initiated by detection of a peak in said far-end signal power," respectively.

Meek calculates an ERL value by averager 32, based on average values of  $R_a$  and  $S_a$ , only when enabled by a signal  $En$  signifying that  $E_a > Th$ . That is, the measurement of ERL in

Meek is predicated on the signal  $E_n$  being greater than a fixed threshold value. The exceeding of a fixed threshold value to enable a measurement of ERL in Meek is not analogous to the detection and measurement of a peak power value that initiates and is associated with one or more power periods. Exceeding the fixed threshold of Meek does not correspond to detecting the peak power value, which initiates a power period of the present invention.

Furthermore, as is obvious to one of ordinary skill in the art, the adaptive filter 18 of Meek is usually implemented by a digital signal processing chip, which is far more expensive than the relatively simple peak-detector used by the present invention. Filters are not peak detectors.

For at least the reasons outlined above, Applicants respectfully submit that Meek does not disclose, teach or suggest that a peak power value of the far-end signal is measured during a power period that is initiated by detection of a peak in the far-end signal power, as recited in claims 1, 16, and 20. Accordingly, Meek does not anticipate, or render obvious, the subject matter of claims 1, 16, and 20. Withdrawal of the rejection of claim 20 under 35 U.S.C. §102(b) as anticipated by Meek is respectfully solicited.

### **The Lu Reference**

The Office Actions cite Lu for teaching an impulse response characteristic  $h(t)$  of an echo channel spanning the entire echo path delay time, as shown in Fig. 4 and the Abstract (Office Action, page 7, lines 10-11). The Office Action alleges that "the entire delay time is shown to have two regions - a flat delay where the impulse response is substantially zero, and an echo dispersion region that includes the active portion, referred to as the major body, where the impulse response has a relatively significant absolute magnitude, i.e., where an echo of the far end signal is created (Fig. 4 and paragraph [0049])."

Claim 1 recites at least the features of "measuring a peak power value of a signal received from a far end of a communication link within a power period, said power period being initiated by detection of a peak in said far-end signal power."

Similarly, claim 16 recites at least the features of "measuring a peak power value of a signal received from a far-end of a communication link within a filter length period, said filter length period being initiated by detection of a peak in power of said far-end signal."

Lu does not cure the deficiencies of Meek. For at least the reasons outlined above, Applicants respectfully submit that Lu does not disclose, teach or suggest that a peak power value of the far-end signal is measured during a power period that is initiated by detection of a peak in the far-end signal power, as recited in claims 1 and 16.

For at least the reasons outlined above in regard to the rejection of claim 20 over Meek and those reasons outlined immediately above in regard to Lu, Applicants respectfully submit that Meek and Lu, either individually or in combination, do not teach or suggest every feature of claim 1 and 16. Accordingly, Meek and Lu, either individually or in combination, do not render obvious the subject matter of claims 1 and 16, and claims 2-15 and 17-19, which depend from claims 1 and 16. Withdrawal of the rejection of claims 1-5, 7-9, 16, and 19 under 35 U.S.C. §103(a) as unpatentable over Meek in view of Lu is respectfully solicited.

### **The Fuji Reference**

The Office Action cites Fuji for teaching a method of active noise cancellation of a signal as shown in Fig. 30 of Fuji (Office Action, page 10, lines 11-12).

Claim 1 recites at least the features of "measuring a peak power value of a signal received from a far end of a communication link within a power period, said power period being initiated by detection of a peak in said far-end signal power."

Similarly, claim 16 recites at least the features of "measuring a peak power value of a signal received from a far-end of a communication link within a filter length period, said filter length period being initiated by detection of a peak in power of said far-end signal."

Fuji does not cure the deficiencies of Meek and Lu. Applicants respectfully submit that nowhere does Fuji disclose, teach or suggest that a peak power value of the far-end signal is measured during a power period that is initiated by detection of a peak in the far-end signal

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power, as recited in claims 1 and 16.

For at least the reasons outlined above in regard to the rejection of claims 1 and 16 over Meek and Lu and those reasons outlined immediately above in regard to Fuji, Applicants respectfully submit that Meek, Lu, and Fuji, either individually or in combination, do not teach or suggest every feature of claim 1 and 16. Accordingly, Meek, Lu, and Fuji, either individually or in combination, do not render obvious the subject matter of claims 1 and 16, and claims 2-15 and 17-19, which depend from claims 1 and 16. Withdrawal of the rejection of claims 6, 17, and 18 under 35 U.S.C. §103(a) as unpatentable over Meek in view of Lu and further in view of Fuji is respectfully solicited.

#### **Conclusion**

Applicants respectfully submit that claim 5 is amended above to correct the informalities to which the Office Action objected.

In view of the foregoing, Applicant respectfully submits that claims 1-20, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above-identified Application to issue at the earliest possible time.

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Should the Examiner find the above-identified Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes that may be deemed advisable in a telephonic or personal interview. The Commissioner is hereby authorized to charge any deficiencies to Client's Deposit Account No. 20-0668.

Respectfully submitted,

Date: 8/9/04

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: the Commissioner for Patents, United States Patent and Trademark Office, PO Box 1450, Alexandria, Virginia 22313-1450 on August 9, 2004.

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